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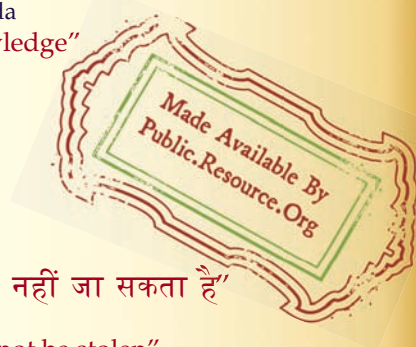
IS 6260 (1971): p-Nitroanisole [PCD 9: Organic Chemicals Alcohols and Allied Products and Dye Intermediates]



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IS : 6260 - 1971

Indian Standard
SPECIFICATION FOR *p*-NITROANISOLE

UDC 668·819·6 : 547·562·4-261-117



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**INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 1**

February 1972

Gr 2

Indian Standard

SPECIFICATION FOR *p*-NITROANISOLE

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(Continued on page 2)

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IS : 6260 - 1971

(Continued from page 1)

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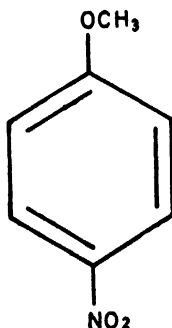
Indian Standard

SPECIFICATION FOR *p*-NITROANISOLE

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 23 August 1971, after the draft finalized by the Dye Intermediates Sectional Committee had been approved by the Chemical Division Council.

0.2 *p*-Nitroanisole ($C_7H_7NO_3$) is used in the manufacture of *p*-anisidine. It has the following structural formula:



p-NITROANISOLE

(Molecular weight = 153)

0.3 This standard is one of a series of Indian Standards on dye intermediates. A complete list of such standards is given on P 6.

0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

* Rules for rounding off numerical values (revised).

1. SCOPE

1.1 This standard prescribes the requirements and the methods of sampling and test for *p*-nitroanisole.

2. REQUIREMENTS

2.1 **Description** — The material shall be in the form of a light brown or brownish-yellow crystalline fused mass.

2.2 The material shall also comply with the requirements given in Table 1.

TABLE 1 REQUIREMENTS FOR *p*-NITROANISOLE

SL No.	CHARACTERISTIC	REQUIREMENT	METHOD OF TEST (REF TO CL No. IN IS : 5299-1969*)
(1)	(2)	(3)	(4)
i)	Crystallization point, °C	51.2 to 52.0	7.3.2
ii)	Nitro compound content, percent by weight (expressed as $C_7H_7NO_3$, mol wt 153), <i>Min</i>	98.5	14

*Methods of sampling and tests for dye intermediates.

3. PACKING AND MARKING

3.1 **Packing** — Unless otherwise agreed to, the material shall be packed in suitable drums (*see* IS : 2552-1963*).

3.2 **Marking** — The containers shall be securely closed and shall bear legibly and indelibly, the following information:

- Name of the material;
- Name of the manufacturer and his trade-mark, if any;
- Lot or batch number; and
- Tare, net and gross weights.

3.2.1 The containers may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act, and the Rules and Regulations made thereunder. Presence of this mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard, under a well-defined system of inspection, testing and quality control during production. This system, which is devised and supervised by ISI and operated by the producer, has the further safeguard that the products as actually marketed are continuously checked by ISI for conformity to the standard. Details of conditions, under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

*Specification for steel drums (galvanized and ungalvanized).

4. SAMPLING

4.1 The material shall be melted and sampled in accordance with the method prescribed in 3 of IS : 5299-1969* using a sample bottle or can as necessary.

4.2 Number of Tests — Nitro compound content and crystallization point of each individual sample shall be determined separately.

4.3 Criteria for Conformity — The lot shall be declared as conforming to the standard if the test results as obtained in 4.2 satisfy the corresponding requirements given in Table 1.

*Methods of sampling and tests for dye intermediates.

INDIAN STANDARDS

ON

Dye Intermediates

IS:						Rs
2630-1964	Nitrobenzene, technical	...	...	...	...	3·00
2740-1964	Sulphanilic acid, technical	...	...	...	...	3·00
2741-1964	β -naphthol	...	...	...	...	3·50
2744-1964	α -naphthylamine	...	...	...	...	3·00
2833-1964	Aniline, technical	...	...	...	...	4·50
3229-1965	Naphthionic acid (sodium salt )	...	...	...	...	2·50
3242-1965	β -oxy naphthoic acid (bon acid )	...	...	...	...	3·00
3562-1965	<i>p</i> -nitrotoluene, technical	...	...	...	...	4·50
4265-1967	4-4' Diaminostilbene 2-2' disulphonic acid	...	...	...	...	4·00
4334-1967	<i>o</i> -chloroaniline	...	...	...	...	5·00
4335-1967	<i>m</i> -chloroaniline	...	...	...	...	5·00
4336-1967	<i>p</i> -chloroaniline	...	...	...	...	5·50
4425-1967	<i>p</i> -Nitrotoluene <i>o</i> -sulphonic acid	...	...	...	...	4·00
4523-1968	Acetoacetanilide	...	...	...	...	4·00
4524-1968	Acetoacet- <i>o</i> -chloroanilide	...	...	...	...	4·00
4525-1968	<i>p</i> -Aminoacetanilide	...	...	...	...	4·00
4526-1968	2, 5 Dichloroaniline	...	...	...	...	5·00
4527-1968	2-Nitro-4-chlorotoluene	...	...	...	...	5·00
4528-1968	4-4'-Dinitrostilbene-2-2'-disulphonic acid (disodium salt )	...	...	...	...	5·00
5042-1969	1-Aminoanthraquinone	...	...	...	...	4·00
5043-1969	2-Aminoanthraquinone	...	...	...	...	4·00
5044-1969	Benzanthrone	...	...	...	...	5·00
5045-1969	Metanilic acid, technical	...	...	...	...	4·00
5299-1969	Methods of sampling and tests for dye intermediates	...	...	...	...	12·00
5438-1969	Nitrobenzene- <i>m</i> -sulphonic acid (sodium salt )	...	...	...	...	3·50
6258-1971	<i>o</i> -Nitroanisole	...	...	...	...	2·00
6259-1971	Anthraquinone, technical	...	...	...	...	2·50
6260-1971	<i>p</i> -Nitroanisole	...	...	...	...	2·00
6264-1971	J-Acid	...	...	...	...	2·00
6265-1971	Quinizarine, technical	2·50
6266-1971	1:4 Diaminoanthraquinone, technical	3·50

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Chemicals, organic (miscellaneous)	Petroleum and petroleum products
Coal and coke	Photographic chemicals
Coal carbonization products	Pigments and extenders
Coated fabrics	Plastics
Cosmetics and toilet goods	Polishes
Drying oils	Printing inks
Dye intermediates	Ready mixed paints and enamels
Electroplating chemicals	Rubber and rubber products
Explosive and pyrotechnic materials	Soaps and other surface active agents
Fertilizers	Tanning materials and allied products
Fillers, stoppers and putties	Thermal insulation materials
Footwear	Thinners and solvents
Glass and glassware	Varnishes and lacquers
Industrial gases	Water and water treatment
Inks and allied products	Water based paints
Laboratory glassware, thermometers and related apparatus	Unclassified
Lac and lac products	
Leather, leather goods and leather dressings	

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AMENDMENT NO. 1 DECEMBER 2003
TO
IS 6260 : 1971 SPECIFICATION FOR *p*-NITROANISOLE

(Page 3, clause 0.2, *Structural Formula*) — Insert the following below the structural formula:

‘(CAS Registry No. 100-17-4)’

(Page 4, Table 1) — Substitute the following table for the existing :

Table 1 Requirements for *p*-Nitroanisole

Sl No.	Characteristic	Requirement	Methods of Test, Ref to	
			Clause of This Standard	Clause No of IS 5299 2001
(1)	(2)	(3)	(4)	(5)
i)	Crystallization point, °C	51.2-52.0		8
ii)	Nitro compound content, percent by mass (expressed as C ₇ H ₇ NO ₃ , Mol Wt 153), <i>Min</i>	98.5		15
iii)	Matter insoluble in methanol, percent by mass	0.2		11.3
iv)	Presence of impurities, <i>Max</i>		Annex A	17.3
	a) <i>p</i> -Nitrochlorobenzene (PCNB)	0.2		
	b) <i>o</i> -Nitroanisole	0.2		
	c) <i>p</i> -Nitrophenol	0.2		

(Page 5, clause 4.3) — Insert the following Annex at the end:

‘ANNEX A
(Table 1)

THIN LAYER CHROMATOGRAPHIC ANALYSIS FOR DETERMINATION OF IMPURITIES

A-1 PROCEDURE

Impurities are determined by thin layer chromatography. Reference may be made to ‘IS 5299 : 2001 Methods of sampling and tests for dye intermediates’ for details of TLC test method to be followed. However necessary details of test conditions are given here for guidance only.

Amend No. 1 to IS 6260 : 1971

1	Product name	<i>p</i> -Nitroanisole
2	Sample solution (on 100 % basis)	2% Solution acetone
3	Application/sample volume for spotting	5 µl (for sample) 2 µl and 4 µl (for impurities)
4	Standard	Reference standard
5	Test substance for impurities	1) PCNB 2) <i>o</i> -nitroanisole 3) <i>o</i> -Nitro phenol (0.05 % solution in acetone)
6	Plate type	Silica gel G
7	Eluent	P E (60-80 C) Ether 70 30
8	Elution time	(Ammonia atri -saturated-twice run, 1h)
9	Temperature	25 ± 5°C
10	Detection spray	(*)SnCl ₂ solution + PDAB solution
11	Evaluation	Semi quantitative
12	Approx R _f value — Main band	<i>p</i> -Nitro anisole R _f 0.65
	—Impurities	<i>P</i> - Nitrochlorobenzene R _f 0.80 (PCNB) <i>o</i> -Nitro anisole R _f 0.55 <i>p</i> - Nitrophenol R _f 0.15

(*)SnCl₂ solution 10 % solution in (1:1)water + 5N HCl

PDAB solution P Dimethylamino benzaldehyde 1 % solution in (1 : 0.5 : 0.5) Methanol
Water : 5 N HCl

(PCD 11)

Reprography Unit, BIS, New Delhi, India